

UpToDate® Advanced, - diseñado para ayudar a reducir la variabilidad de atención a los pacientes, - ha añadido dos nuevas herramientas disponibles con la suscripción a UpToDate Anywhere.

- **UpToDate® Pathways:** guías interactivas en forma de árboles de decisión, para ayudar a tomar decisiones apropiadas relacionadas con preguntas clínicas específicas.

Se pueden ver todas las rutas seleccionando "UpToDate Pathways" en la navegación superior. Hay que escoger el tema deseado y a través de una preguntas que se muestran en el lado derecho de la pantalla sobre el paciente y según sea la respuesta del clínico, el árbol de decisión irá marcando en azul el camino a seguir en el árbol de decisión.

The screenshot displays the UpToDate Pathways interface for the topic "Atrial fibrillation: Anticoagulation for adults with atrial fibrillation". The interface includes a search bar at the top, a navigation menu on the left, and a main content area. The decision tree on the left starts with the question "Patient stable, requires risk stratification, and no stroke". It leads to "Calculate the CHA₂DS₂-VASc and HAS-BLED scores". A decision point follows: "CHA₂DS₂-VASc score of 2 or greater?". If "Yes", it asks "Anticoagulation is recommended regardless of CHA₂DS₂-VASc score for these patients. Do you want to start/continue anticoagulation?". If "No", it asks "Anticoagulation is recommended for most patients with CHA₂DS₂-VASc score of 2 or greater. Do you want to start/continue anticoagulation?". Both paths lead to a question: "Interpretation: Patients moderate to severe risk of bleeding, or whose decision preference to receive their blood thinning medication is more important than their stroke risk. Do you want to start/continue anticoagulation?". This leads to further decision points based on whether the patient is currently on anticoagulation and their preference for starting or continuing it.

The text box on the right provides additional information: "Anticoagulation is recommended for most patients with a CHA₂DS₂-VASc score of 2 or greater. For patients with a CHA₂DS₂-VASc score of 2, the estimated annual stroke risk without anticoagulation is approximately 2.2 in 100 patients, so for most patients the benefit-to-risk ratio favors anticoagulation. The rare patient who is at very high risk of major bleeding, or an informed patient who is particularly averse to bleeding risk, may choose no anticoagulation. This patient's HAS-BLED score is 0, which is associated with an estimated annual bleeding risk with anticoagulation of approximately 1.1 in 100 patients. The recommendation to anticoagulate patients with a CHA₂DS₂-VASc score ≥ 2 generally includes patients with short-duration paroxysmal atrial fibrillation. However, factors such as the duration of atrial fibrillation and how high the CHA₂DS₂-VASc score is may influence the decision to anticoagulate in these patients." Below the text is a form with the question "Do you want to start/continue anticoagulation?" and two radio button options: "Yes" and "No".

- **Interpretación de laboratorio:** monografías para ayudar a interpretar resultados de laboratorio anormales y decidir los siguientes pasos. Desde Contenidos, pinchamos sobre el menú de "LAB Interpretation". Buscamos una pregunta / condición en el cuadro de búsqueda de UpToDate para encontrar rutas relevantes y monografías de laboratorio.

The screenshot shows the UpToDate website interface. At the top, there is a search bar and the logo. Below the search bar, there is a navigation menu with the following items: "Contenidos", "Calculadoras", "Interacciones de fármacos", and "UpToDate Pathways". The "Contenidos" menu is expanded, showing a list of categories: "Novedades", "Actualizaciones que Cambian la Práctica Clínica", "Lab Interpretation", "Información sobre medicamentos", "Educación para el paciente", "Temas por especialidad", "Autores y editores", and "Cardiovascular medicine". The "Lab Interpretation" category is highlighted in blue. Below the menu, there is a search bar and a list of search results. The first result is "Acute decompensated heart failure: Determining if a hospitalized adult is ready for discharge". Other results include "Acute decompensated heart failure: Discharge checklist", "Acute decompensated heart failure: Initial management of hypovolemic patients with adequate perfusion", and "Atrial fibrillation: Anticoagulation for adults with atrial fibrillation".



Lab Interpretation

vitamin b|

HEMATOLOGY LAB MONOGRAPHS

Low vitamin B12 and low folate in adults

Low vitamin B12 in adults

UpToDate® Buscar en UpToDate Ministerio de Sanidad Servicios Sociales e Igualdad

Contenidos Calculadoras Interacciones de fármacos UpToDate Pathways Registrarse Iniciar sesión

Lab Interpretation: Low vitamin B12 in adults

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 Contributor Disclosures

All topics are updated as new evidence becomes available and our [peer review process](#) is complete.
 Literature review current through: Jan 2020. | This topic last updated: Sep 13, 2017.

ALGORITHM
[\(algorithm 1\)](#)

INITIAL EVALUATION

Serum vitamin B12 (cobalamin) is usually measured in conjunction with serum folate to determine the etiology of macrocytosis (mean corpuscular volume [MCV] >100 fL), macrocytic anemia, or mild pancytopenia. Serum vitamin B12 may also be obtained as part of the evaluation of peripheral neuropathy, altered mental status, other unexplained neurologic abnormalities, or overall nutritional status. (See "[Clinical manifestations and diagnosis of vitamin B12 and folate deficiency](#)" and "[Causes and pathophysiology of vitamin B12 and folate deficiencies](#)".)

Once a diagnosis of vitamin B12 deficiency is established, the goal of the initial evaluation is to determine the cause ([table 1](#)). The specific tests required (and their sequence) depend on the clinical setting, the abnormalities present on the complete blood count (CBC), and the results of initial testing.

Vitamin B12 level <200 pg/mL. — A serum vitamin B12 level below 200 pg/mL (148 pmol/L) confirms vitamin B12 deficiency, especially if there are consistent clinical findings. (See "[Clinical manifestations and diagnosis of vitamin B12 and folate deficiency](#)", section on "[Additional testing for selected individuals](#)".)

Assess for a gastrointestinal or dietary condition associated with vitamin B12 deficiency, including:

- Celiac disease (see "[Diagnosis of celiac disease in adults](#)".)
- Pancreatic insufficiency (see "[Exocrine pancreatic insufficiency](#)".)
- Inflammatory bowel disease or other causes of malabsorption (see "[Endoscopic diagnosis of inflammatory bowel disease](#)" and "[Small intestinal bacterial overgrowth: Clinical manifestations and diagnosis](#)".)
- Bariatric, gastric, or intestinal surgery (see "[Bariatric surgery: Postoperative nutritional management](#)", section on "[Micronutrient deficiency, supplementation, and repletion](#)".)
- Reduced dietary intake (eg, strict vegan diet without vitamin B12 supplementation)

Topic Outline

ALGORITHM

INITIAL EVALUATION

Vitamin B12 level <200 pg/mL
 Vitamin B12 level 200 to 300 pg/mL

REFERENCE RANGE

CITATIONS

GRAPHICS view all

Algorithms

- Initial evaluation low vitamin B12

Tables

- Causes of vitamin B12 deficiency

RELATED TOPICS

- Bariatric surgery: Postoperative nutritional management
- Causes and pathophysiology of vitamin B12 and folate deficiencies
- Clinical manifestations and diagnosis of vitamin B12 and folate deficiency
- Diagnosis of celiac disease in adults
- Endoscopic diagnosis of inflammatory bowel disease
- Exocrine pancreatic insufficiency
- Small intestinal bacterial overgrowth: Clinical

Graphics

Algorithm 1

Initial evaluation low vitamin B12

Table 1

Causes of vitamin B12 deficiency

Content Area